. . . connecting your business

LANCOM 3550 Wireless

Professional UMTS / WLAN router for mobile data access and UMTS/HSDPA backup

- Broadband access via UMTS/HSDPA or DSL
- High availability through vendor-independent VRRP
- 5 IPSec VPN channels integrated; optional: 25 simultaneous VPN channels
- Integrated dualband access point for 2.4 or 5 GHz compliant with IEEE 802.11a/b/g/h
- High-security wireless LAN through 802.11i, 802.1x/EAP and LEPS
- Stateful-inspection firewall with intrusion detection/denial-of-service protection
- No-problems installation even away from power-supply points with Power over Ethernet
- UMTS/HSDPA card not supplied—flexible, simple technology upgrade with the external CardBus slot

LANCOM
Systems

More Connectivity.

The combination of UMTS/HSDPA, WLAN, DSL and VPN opens up a completely new range of possibilities in enterprise connectivity—for example, mobile conference rooms that are connected via UMTS/HSDPA and offer Internet access over WLAN or access to the company network via VPN.

As a back-up connection for site coupling, UMTS/HSDPA is cheaper and faster than the conventional alternative, ISDN. Furthermore, it is significantly less prone to failure as there are no cables which are at risk from construction works. Using VRRP with the LANCOM 3550 Wireless offers fully non-proprietary high availability and a completely transparent, automatic switch of media in the event of backup.

Apart from that, UMTS/HSDPA is able to bridge the ìlast mileî for customers who do not have access to an equivalent broadband connection. The UMTS/HSDPA card is simply operated in the CardBus expansion slot of the LANCOM 3550 Wireless. Switching between Internet access via HSDPA, UMTS or GRPS depends upon availability and is fully automatic.

More Security.

The integrated firewall with the latest security functions such as stateful inspection, intrusion detection and Denial-of-Service protection is supplemented by dynamic bandwidth management and comprehensive functions for backup, high-availability and redundancy through VRRP. The integrated VPN gateway that fulfills the IPSec standard provides optimal security for connecting telecommuters and branch offices thanks to the high-security 3-DES or AES encryption and support of digital certificates. LANCOM is setting the standards in area of WLAN security, too. A comprehensive range of security technologies is supported in wireless LAN including IEEE 802.11i, 802.1x, WPA, WEP64/128/152, ACL or LEPS (LANCOM Enhanced Passphrase Security), which enables the configuration of an optimized solution, whatever the individual requirements. For example, Multi SSID allows the definition of up to 8 user groups, each with its own level of security.

More Management.

LANCOM developments are focused on performance, security and on management, too. The management systems LANconfig and LANmonitor are included and offer not only cost-effective remote maintenance of entire installations along with highly convenient setup wizards, but also full real-time monitoring and logging. What's more, service providers benefit from the broad range of scripting methods and professional access with individual access rights for administrators via SSH, HTTPS, TFTP and Telnet.

More Certainty for the Future.

From the very start, LANCOM products are designed for a product life of several years. They are equipped with hardware dimensioned for the future. Even reaching back to older product generations, updates to the LANCOM Operating System—LCOS—are available several times a year, free of charge and offering major features. LANCOM offers unbeatable protection of your investment!

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Firewall	
Stateful inspection firewall	Direction-dependant check based on connection information
Packet filter	Check based on the header information of an IP packet (IP or MAC source/destination addresses; source/destination ports, DiffServ attribute); remote-site dependant, direction dependant, bandwidth dependant
Masquerading	Network Address Translation (NAT), N:N mapping for the translation or masking of IP addresses
Port mapping	Provision of services from behind masqueraded computers, for example, to make an internal web server available from the outside (inverse masquerading)
Tagging	The firewall marks packets with routing tags, e.g. for policy-based routing
Actions	Forward, drop, reject, block sender address, close destination port, disconnect
Messaging	Via e-mail, SYSLOG or SNMP trap
Quality of Service	
Traffic shaping	Dynamic bandwidth management with IP traffic shaping
Bandwidth reservation	Dynamic reservation of minimum and maximum bandwidths, absolute or connection-related, separate settings for send and receive directions
DiffServ/TOS	Priority packet queuing based on DiffServ/TOS fields
Packet-size control	Automatic packet-size control by fragmentation or Path Maximum Transmission Unit (PMTU) adjustment.
Layer 2/Layer 3 tagging	Automatic or fixed translation of layer-2 priority information (802.11p-marked Ethernet frames) to layer-3 DiffServ attributes in routing mode. Translation from layer 3 to layer 2 with automatic recognition of 802.1p-support in the destination device.
Security	
Intrusion Prevention	Monitoring and blockage of login attempts and port scans
IP spoofing	Source IP address check on all interfaces: The only accepted IP addresses belong to the previously defined IP network
Access Control lists	Filtering of IP or MAC addresses and preset protocols for configuration access and LANCAPI
Denial of Service protection	Protection from fragmentation errors and SYN flooding
General	Detailed settings for handling reassembly, PING, stealth mode and AUTH port
URL blocker	Filtering of unwanted URLs based on DNS hitlists and wildcard filters
Password protection	Password-protected configuration access can be set for each interface
Alerts	Alerts via e-mail, SNMP-Traps and SYSLOG
Authentication mechanisms	PAP, CHAP and MS-CHAP as PPP authentication mechanism
High availability / redundancy	
VRRP	VRRP (Virtual Router Redundancy Protocol) for non-proprietary backup in case of failure of a device or remote station. Enables passive standby groups or reciprocal backup between multiple active devices including load balancing and freely definable backup priorities
FirmSafe	For completely safe software upgrades thanks to two stored firmware versions, incl. test mode for firmware updates
UMTS backup*	Operation of an external UMTS/HSDPA card in the external CardBus slot. Supported cards: See Internet
VPN redundancy	Control of up to 16 redundant VPN gateways for high availability or load balancing
Line monitoring	Line monitoring with LCP echo monitoring, dead-peer detection and up to 4 addresses for end-to-end monitoring with ICMP polling.
Notice	A UMTS card is not supplied
VPN	
Number of VPN tunnels	5 IPSec connections active simultaneously, 25 connections configurable
IKE	IPSec key exchange with Preshared Key or certificate
Certificates	X.509 digital certificate support, compatible with Microsoft Server / Enterprise Server and OpenSSL, upload of PKCS#12 files via HTTPS interface
Algorithms	3DES (168 bit), AES (128, 192 or 256 bit), Blowfish (128 bit), RSA (128 or -448 bit) and CAST (128 bit); MD-5 or SHA-1 hashes
NAT-Traversal	NAT-Traversal (NAT-T) support for VPN over routes without VPN passthrough
IPCOMP	VPN data compression based on LZS or Deflate compression for higher IPSec throughput
Dynamic DNS (dynDNS)	Enables the registration of IP addresses with a dynDNS provider in the case that fixed IP addresses are not used for the VPN connection
Specific DNS forwarding	DNS forwarding according to DNS domain, e.g. internal names are translated by proprietary DSN servers in the VPN; external names are translated by Internet DNS servers.

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WLAN	
Frequency band 2.4 GHz or 5 GHz (EU version)	2400 - 2483.5 MHz (ISM) or 5150 - 5750 MHz or 5725-5825 MHz (UK only)
Transfer rates 2.4 GHz	54 Mbps to IEEE 802.11g (fallback to 48, 36 , 24, 18, 12, 9, 6 Mbps, Automatic Rate Selection) compatible to IEEE 802.11b (11, 5,5, 2, 1 Mbps, Automatic Rate Selection), 802.11 b/g compatibility mode or pure g or pure b, Super A/G with Turbo Mode (108Mbps), bursting, compression
Transfer rates 5 GHz	54 Mbps to IEEE 802.11a/h (fallback to 48, 36 , 24, 18, 12, 9, 6 Mbps, Automatic Rate Selection), Super A/G with Turbo Mode (108Mbps), bursting, compression, fully compatible with TPC (adjustable power output) and DFS (automatic channel selection, radar detection) according to ETSI regulations
Range *	Up to 150 m (up to 30 m in buildings) *
Maximum transmission power 2.4 GHz	802.11b: +19dBm @ 1 and 2Mbps, +19dBm @ 5.5 and 11Mbps
Maximum transmission power 2.4 GHz	802.11g: +19dBm @ 6Mbps, +14dBm @ 54Mbps
Maximum transmission power 5 GHz	802.11a/h: +18dBm @ 6Mbps, +12dBm @ 54Mbps with automatic transmission power control (TPC) and manual power settings
Minimum transmission power	Transmission-power reduction in software by 1dB steps to min. 0.5 dBm
Reception sensitivity 2.4 GHz	802.11b: -87dBm @ 11Mbps, -94dBm @ 1Mbps
Reception sensitivity 2.4 GHz	802.11g: -87dBm @ 6Mbps, -70dBm @ 54Mbps
Reception sensitivity 5 GHz	802.11a/h: -87dBm @ 6Mbps, -67dBm @ 54Mbps
Radio channels 2.4 GHz	Up to 13 channels, max. 3 non-overlapping (2.4-GHz band)
Radio channels 5 GHz	Up to 19 non-overlapping channels (5 Ghz band) with automatic dynamic channel selection (DFS)
Roaming	Seamless handover between radio cells, IAPP support, IEEE 802.11d support
WPA2 fast roaming	Pre-authentication and PMK caching for fast 802.1x authentication
Fast client roaming	With background scanning, mobile access points in client mode can switch to alternative access points which offer a better signal before the connection to the first access point fails
VLAN	Support of up to 4094 VLAN IDs for WLAN connections, 32 simultaneously usable VLAN tags for 802.11x clients
Multi SSID	Simultaneous use of up to 8 independent WLAN networks per WLAN interface
Security	IEEE 802.11i / WPA2 with passphrase or 802.1x and hardware-accelerated AES, closed network, WEP64, WEP128, WEP152, access control lists, RADIUS client, user authentication, 802.1x /EAP
RADIUS server	Integrated RADIUS server for MAC address list management
Quality of Service	Support of Wireless Multimedia Extensions (WME, integral to IEEE802.11e), for example for prioritization of voice clients
Bandwidth limitation	Each WLAN client (MAC address) can be assigned maximum transmit and receive rates and an individual VLAN ID
Background scanning	The detection of rogue access points and the channel properties is carried out almost unnoticeably for all WLAN channels during normal AP operation.
Client detection	Rogue WLAN client detection based on probe requests
802.1x supplicant	Authentication of an access point in WLAN client mode at another access point via 802.1X (EAP-TLS, EAP-TTLS and PEAP)
Notice	* The effective distance and transmission rate that can be achieved are depending of the given building conditions.
WLAN operating modes	
WLAN access point	Infrastructure mode
WLAN bridge	Point-to-multipoint connection of up to 7 Ethernet LANs (mixed operation optional), broken link detection, blind mode, up to 32 VLANs simultaneously for WLAN connections
WLAN router	Use of the LAN connector for simultaneous DSL over LAN, IP router, NAT/Reverse NAT (IP masquerading) DHCP server, DHCP client, DHCP relay server, DNS server, PPPoE client (incl.Multi-PPPoE), PPTP client and server, NetBIOS proxy, DynDNS client, NTP, port mapping, policy-based routing based on routing tags, tagging based on firewall rules, dynamic routing with RIPv2, VRRP, spanning-tree protocol to support redundant routes in Ethernet networks
WLAN client	Transparent WLAN client node for wireless Ethernet extensions, e.g. connecting PCs or printers by Ethernet; up to 64 MAC addresses
Routing functions	
Router	IP and NetBIOS/IP multi-protocol router
HTTP	HTTP and HTTPS server for configuration by web interface
DNS	DNS client, DNS server, DNS relay, DNS proxy and dynamic DNS client
DHCP	DHCP client, DHCP relay and DHCP server with autodetection
NetBIOS	NetBIOS/IP proxy

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Routing functions	
NTP	NTP client and SNTP server, automatic adjustment for daylight-saving time
Policy-based routing	Policy-based routing based on routing tags. Based on firewall rules, certain data types are marked for specific routing, e.g. to particular remote sites or lines.
Dynamic routing	Dynamic routing with RIPv2. Learning and propagating routes; separate settings for LAN and WAN
LAN protocols	
IP	ARP, proxy ARP, BOOTP, LANCAPI, DHCP, DNS, HTTP, HTTPS, IP, ICMP, NTP/SNTP, NetBIOS, PPPoE (server), RADIUS, RIP-1, RIP-2, RTP, SIP, SNMP, TCP, TFTP, UDP, VRRP
WLAN protocols	
Ethernet	PPPoE, Multi-PPPoE, ML-PPP, PPTP (PAC or PNS) and plain Ethernet (with or without DHCP), RIP-1, RIP-2
Interfaces	
WAN: Ethernet	10/100 Mbps Fast Ethernet
LAN	10/100Base-TX, autosensing, auto node hub, PoE compliant with the PowerDSine standard
External antenna connectors	Two reverse SMA connectors for external LANCOM AirLancer Extender antennas or for antennas from other vendors. Please respect the restrictions which apply in your country when setting up an antenna system. For information about calculating the correct antenna setup, please refer to www.lancom-systems.com.
Management	
LANconfig	Configuration program for Microsoft Windows, incl. convenient Setup Wizards. Optional group configuration, simultaneous remote configuration and management of multiple devices over IP connection (HTTPS, HTTP, TFTP)
LANmonitor	Monitoring application for Microsoft Windows for (remote) surveillance and logging of the status of LANCOM devices and connections, incl. PING diagnosis
WLANmonitor	Monitoring application for Microsoft Windows for the visualization and monitoring of LANCOM WLAN installations, incl. Rogue AP and Rogue Client visualization
Webconfig	Integrated web server for the configuration of LANCOM devices via Internet browsers with HTTPS or HTTP
Access rights	Individual access and function rights for up to 16 administrators
User administration	RADIUS user administration for dial-in access (PPP/PPTP and ISDN CLIP)
Remote maintenance	Remote configuration with Telnet/SSL, SSH (with password or certificate), browser (HTTP/HTTPS), TFTP or SNMP, firmware upload via HTTP/HTTPS or TFTP
Security	Access rights (read/Write) over WAN, LAN or WLAN can be set up separately (VPN only, Telnet/SSL, SSH, SNMP, HTTPS/HTTP), access control list
Scripting	Scripting function for batch-programming of all command-line parameters and for transferring (partial) configurations, irrespective of software versions and device types, incl. test mode for parameter changes
SNMP	SNMP management via SNMP V2, private MIB exportable by WEBconfig, MIB II
Timed control	Scheduled control of parameters and actions (e.g. firewall rules or connection establishment) with CRON service
TFTP	TFTP client and server with variable file names (name, MAC/IP address, serial number)
Diagnosis	Extensive LOG and TRACE options, PING and TRACEROUTE for checking connections, LANmonitor status display, internal logging buffer for SYSLOG and firewall events, monitor mode for Ethernet ports
AirWave	Supported by the LANCOM Enterprise Management System (AirWave AMP, Site Planner, RAPIDS, Client)
Statistics	
Statistics	Extensive Ethernet, IP and DNS statistics; SYSLOG error counter
Accounting	Connection time, online time, transfer volumes per station. Snapshot function for regular read-out of values at the end of a billing period.
Export	Accounting information exportable via LANmonitor and SYSLOG
Hardware	
Power supply	12 V AC, external power adapter (230 V)
Power supply	Via Power over Ethernet compliant with the PowerDsine standard
Environment	Temperature range 0-50 °humidity 0-95 %; non-condensing
Housing	Robust synthetic housing, rear connectors, ready for wall mounting, Kensington lock; measures 210 x 45 x 140 mm (W x H x D)
Power consumption (max)	ca. 9 Watts
Declarations of conformity	
CE	EN 55022, EN 301 489-1, EN 301 489-17, EN 60950

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Declarations of conformity	
2.4 GHz WLAN	ETS 300 328
5 GHz WLAN	EN 301 893
Notifications	Certifications notified in Germany, Belgium, Netherlands, Luxembourg, Austria, Switzerland, UK, Italy, Spain, France, Portugal, Czech Republic, Denmark, Malta
Package content	
Manual	Printed User Manual (DE, EN) and Quick Installation Guide (DE/EN/FR/ES/IT/PT/NL)
CD	CD with firmware, management software (LANconfig, LANmonitor, LANCAPI) and documentation
Cable	2 Ethernet cables, 3m
Antennas	Two 3-dBi dipole dualband antennas
Power supply unit	12 V AC, external power adapter (230 V)
Support	
Warranty	3 years, support via Hotline and Internet KnowledgeBase
Software updates	Regular free updates (LCOS operating system and management tools) via Internet
Options	
Options	LANCOM VPN-25 Option (25 channels, 50 configurable), item no. 60083
Options	LANCOM Service Option (24h advance replacement within Germany, 4 year warranty, not for PoE Power Injector), item no. 61401
Options	LANCOM Public Spot Option (authentication and accounting software for hotspots), item no. 60642
Accessories	
External antennas	AirLancer Extender O-30 2.4 GHz outdoor antenna, item no. 60478
External antennas	AirLancer Extender O-70 2.4 GHz outdoor antenna, item no. 60469
External antennas	AirLancer Extender O-9a 5 GHz outdoor antenna, item no. 61220
External antennas	AirLancer Extender O-18a 5 GHz outdoor antenna, item no. 61210
External antennas	AirLancer Extender O-D80g 2.4 GHz polarization diversity outdoor sector antenna, item no. 61221
External antennas	AirLancer Extender O-D60a 5 GHz polarization diversity outdoor sector antenna, item no. 61222
External antennas	AirLancer Extender O-360ag dualband omnidirectional outdoor antenna, item no. 61223
External antennas	AirLancer Extender I-60ag dualband indoor sector antenna, item no. 61214
External antennas	AirLancer Extender I-180 omnidirectional 2.4 GHz indoor antenna, item no. 60914
External antennas	AirLancer Extender I-360 omnidirectional 2.4 GHz indoor antenna, item no. 00745
Antenna cable	AirLancer cable NJ-NP 3m antenna-cable extension, item no. 61230
Antenna cable	AirLancer cable NJ-NP 6m antenna-cable extension, item no. 61231
Antenna cable	AirLancer cable NJ-NP 9m antenna-cable extension, item no. 61232
Lightning Protection (antenna cable)	AirLancer Extender SA-5 lightning protection (2.4 and 5 GHz), item no. 61212
Lightning Protection (LAN cable)	AirLancer Extender SA-LAN lightning protection LAN cable, item no. 61213
Documentation	LANCOM LCOS Reference Manual (DE), item no. 61700
19" Rack Mount	19" rackmount adapter, item no. 61501
Power over Ethernet	LANCOM PoE Power Injector, item no. 61502
VPN Client Software	LANCOM Advanced VPN Client for Windows 98SE-XP, single license, item no. 61600
VPN Client Software	LANCOM Advanced VPN Client for Windows 98SE-XP, 10 licenses, item no. 61601
VPN Client Software	LANCOM Advanced VPN Client for Windows 98SE-XP, 25 licenses, item no. 61602
Item numbers	
LANCOM 3550 Wireless	61112
LANCOM 3550 Wireless UK	61113

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